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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,871	07/10/2003	Hung T. Du	0275Y-000431/CPD	1569
27572	7590	03/29/2005	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			PHAN, THIEM D	
			ART UNIT	PAPER NUMBER
			3729	

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/616,871	Applicant(s) DU ET AL. 67	
	Examiner Tim Phan	Art Unit 3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-228 and 232-247 is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 141, 143, 145-148, 158, 159, 161, 165, 167, 169, 173 and 232-247 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims (4a):

Claims withdrawn from consideration are 1-140, 142, 144, 149-157, 160, 162-164, 166, 168, 170-172 and 174-228.

Continuation of Attachments (3):

IDS: 10/25/04 (5 pages), 6/11/04 (4), 3/31/04 (1), 12/05/03 (1) & 10/10/03 (10).

DETAILED ACTION

Election/Restrictions

1. Applicants' election without traverse of Group I readable on Species of Group C, Claims 141,143, 145-148, 158, 159, 161, 165, 167, 169 and 173 filed on 1/21/05 is acknowledged.

The Restriction mailed on 12/23/04 has been carefully reviewed and is held to be proper. Moreover Applicants did not distinctly and specifically point out any error in the Restriction Requirement. Accordingly, Claims 1-140, 142, 144, 149-157, 160, 162-164, 166, 168, 170-172 and 174-228 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Groups, there being no allowable generic or linking claim.

The Restriction filed on 12/23/04 is hereby **made Final**.

Applicants are required to cancel these nonelected claims (1-140, 142, 144, 149-157, 160, 162-164, 166, 168, 170-172 and 174-228) or take other appropriate action.

An Office Action on the merits of Claims 141,143, 145-148, 158, 159, 161, 165, 167, 169 and 173, and new Claims 232-247 now follows.

Title

2. The following title is suggested: "A Method for Making an Encapsulated Coil Structure".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 141,143, 145-148, 158, 159, 161, 165, 167, 169, 173 and 232-247 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The terms "being larger than smaller magnet wires used in an armature of the given size" (Claims 141 and 232), "larger volume of magnet wires in the slots with the plastic than in an armature of the given size" (Claims 158, 236 and 244) and "being larger than smaller magnet wires used in an armature of the given size" (Claim 240), are relative terms which render the claim indefinite. The term "being larger or larger volume ... than" are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The magnet wires' size and volume are being rendered indefinite by the use of these terms.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 141, 143, 158, 159 and 167, as best understood, are further rejected under 35 U.S.C. 102(b) as being anticipated by Gstohl et al (US 5,727,307) hereinafter '307.

As applied to claims 141, 143, 158, 159 and 167, the '307 teaches a method of making an armature for an electric motor, comprising:

- securing a lamination stack (Fig. 3, 2) having slots (Fig. 3, 15) therein on an armature shaft (Fig. 3, 1);
- securing a commutator (Fig. 3, 5) on one end of the armature shaft;
- winding magnet wires (Fig. 3, 14) in the slots in the lamination stack and securing ends of the magnet wires to the commutator (Fig. 3, 5); and
- molding plastic (Fig. 5, 19) to at least partially encase the magnet wires in the plastic;

The relatively size, number and volume of the magnet wires encapsulated in plastic, which discloses the Article invention of the Claims is held to have little or no patentable weight; the '307 at a minimum suggests the claimed method invention.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 141, 143, 145-148, 158, 159, 161, 165, 167, 169, 173 and 232-247, as best understood, are further rejected under 35 U.S.C. 103(a) as being unpatentable over the '307.

As applied to claims 141, 143, 158, 159 and 167, the '307 teaches a method of making an armature for an electric motor, comprising:

- securing a lamination stack (Fig. 3, 2) having slots (Fig. 3, 15) therein on an armature shaft (Fig. 3, 1);
- securing a commutator (Fig. 3, 5) on one end of the armature shaft;
- winding magnet wires (Fig. 3, 14) in the slots in the lamination stack and securing ends of the magnet wires to the commutator (Fig. 3, 5); and
- molding plastic (Fig. 5, 19) to at least partially encase the magnet wires in the plastic; except for having magnet wires, encased in plastic, with greater number, larger size and volume than the regular magnet wires of regular armature not encased in plastic.

It would be obvious to one of ordinary skill in the art at the time the invention was made

to apply larger magnetic wires with greater number to the slot in order to draw higher current and induce higher magnetic flux.

As applied to claims 145, 146, 161 and 169, the '307 teaches a method of making an armature for an electric motor, which reads on applicants' claimed invention, except for applying pressure to the magnet wires into the slots.

It would be obvious to one of ordinary skill in the art at the time the invention was made to press the magnet wires in the slots, since it is known in the art that the magnet wires (Fig. 3, 14) are tightly stretched and wound into the slots (Fig. 3, 15) for plastic molding (Fig. 5, 19).

As applied to claims 147, 148, 165 and 173, the '307 teaches a method of making an armature for an electric motor, which reads on applicants' claimed invention, except for applying iso-static pressure by a fluid bladder to the magnet wires into the slots.

It is mere matter of design choice to apply iso-static pressure by a fluid bladder to the magnet wires into the slots and it appears that the invention would perform equally well with the magnet wires (Fig. 3, 14) being tightly stretched and wound into the slots (Fig. 3, 15) for plastic molding (Fig. 5, 19).

As applied to claims 232, 233, 236, 237, 239, 240, 241, 244 and 245, the '307 teaches a method of making an armature for an electric motor, comprising:

- securing a lamination stack (Fig. 3, 2) having slots (Fig. 3, 15) therein on an armature shaft (Fig. 3, 1);
- securing a commutator (Fig. 3, 5) on one end of the armature shaft;
- winding magnet wires (Fig. 3, 14) in the slots in the lamination stack and securing ends of the magnet wires to the commutator (Fig. 3, 5); and
- molding plastic (Fig. 5, 19) to at least partially encase the magnet wires in the plastic; except for disposing the armature in a stator of a power tool, which is well known in the art.

It would be obvious to one of ordinary skill in the art at the time the invention was made to dispose the armature in a stator of a power tool or any electrical motor, since it is known in the art that the armature is a rotor with a shaft (Col. 1, lines 5-10), which must be inserted in a stator to form an electrical motor.

The relatively size, number or volume of the magnet wires encapsulated in plastic, which discloses the Article invention of the Claims is held to have little or no patentable weight; the '307 at a minimum suggests the claimed method invention.

As applied to claims 232, 233, 236, 237, 240, 241, 244 and 245, the '307 teaches a method of making an armature for an electric motor, comprising:

- securing a lamination stack (Fig. 3, 2) having slots (Fig. 3, 15) therein on an armature shaft (Fig. 3, 1);
- securing a commutator (Fig. 3, 5) on one end of the armature shaft;
- winding magnet wires (Fig. 3, 14) in the slots in the lamination stack and securing ends of the magnet wires to the commutator (Fig. 3, 5); and
- molding plastic (Fig. 5, 19) to at least partially encase the magnet wires in the plastic; except for disposing the armature in a stator of a power tool, which is well known in the art while having the same number of magnet wires, encased in plastic, with larger size and volume than the regular magnet wires of regular armature.

It would be obvious to one of ordinary skill in the art at the time the invention was made to dispose the armature in a stator of a power tool or any electrical motor, since it is known in the art that the armature is a rotor with a shaft (Col. 1, lines 5-10), which must be inserted in a stator to form an electrical motor, and to apply larger magnetic wire in order to draw higher current and induce higher magnetic flux.

As applied to claims 234, 235, 238, 242, 243, 246 and 247, the '307 teaches a method of making an armature for an electric motor, which reads on applicants' claimed invention, except for applying pressure to the magnet wires into the slots.

It would be obvious to one of ordinary skill in the art at the time the invention was made to press the magnet wires in the slots, since it is known in the art that the magnet wires (Fig. 3, 14) are tightly stretched and wound into the slots (Fig. 3, 15) for plastic molding (Fig. 5, 19).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M - F, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

T.P

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CARL J. ARBES
PRIMARY EXAMINER

Tim Phan
Examiner
Art Unit 3729

tp
March 23, 2005